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MAY 1982

FOREST INDUSTRIES

LOGGING/PULPWOOD/FORESTRY/LUMBER/PANELS

1982 Volume 109 Number 5

MAY

Industry

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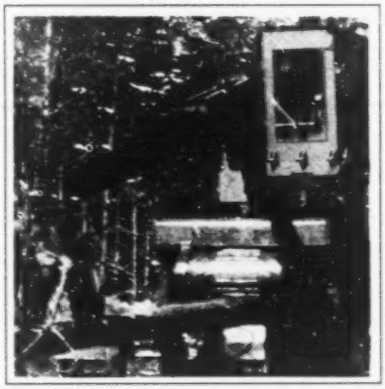
Expand your research and get Uncle Sam to help pay for it

New law provides tax deductions and credits for forest firms that expand research and development efforts



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Sawmill/Panel Clinic drew eager crowds again despite the recession

'Doom and gloom' were far from total as 2,500 people visited FOREST INDUSTRIES' annual show and seminars in Portland. Event is 10 years old

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Formaldehyde emissions got top billing at particleboard symposium

Formaldehyde's famous fumes are getting attention from consumers, regulatory agencies, and the symposium folks in Pullman, Wash.

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Three-mill complex gets wood from loggers both east and west of border

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In keeping with its tradition of continual upgrading, Jordan Lumber and Supply has been working on its Mt. Gilead, N.C., mill. Capacity is now higher

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Waferboard plant uses softwoods as raw material

Waferboard is usually a way to make a product from little-used hardwoods, but Georgia-Pacific uses softwoods at its Woodland, Maine, panel plant

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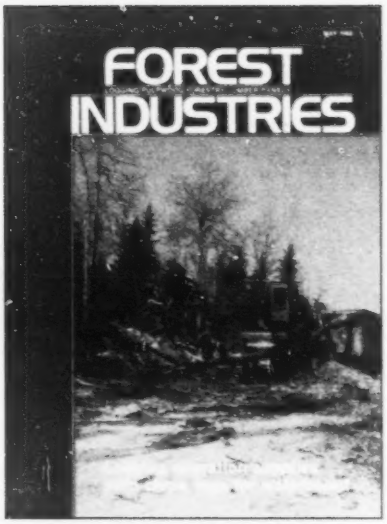

Energy

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Wood-fired boiler system cuts fuel costs for New England plating firm

Circle Finishing, an electroplating operation in Massachusetts, installed a G&S heat recovery boiler system after oil bills had climbed to $30,000 a year

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UF-resin emissions headline '82 particleboard symposium

New developments in Com-Ply panels, MDF and process control were on the program, but it was formaldehyde that 300 symposium delegates whiffed most

By PETER OGLE
Associate Editor

PULLMAN, WASH.—Consistant with the chemical nature of formaldehyde, proceedings at the 16th International Particleboard Symposium couldn't escape being permeated by the issue of the ubiquitous and contentious chemical.

With presentation of more than 25 papers on the subject of particleboard and formaldehyde since the symposium series began, no other issue in the industry can rival such continued interest.

The symposium, conducted by the College of Engineering at Washington State University, attracted an audience of approximately 300. Delegates representing the cutting edge of the particleboard industry came to Pullman from 15 countries, noted chairman Thomas M. Maloney.

In addition to formaldehyde emissions, the symposium program also encompassed new developments relating to Com-Ply panels, medium density fiberboard (MDF) and process control. With growing pressure for regulatory controls of exposure to formaldehyde, however, the urgency of the urea formaldehyde (UF) resin issue brought it to the fore.

Regulatory limits on formaldehyde levels for ambient air in workplaces have recently been promulgated in Minnesota, Wisconsin and Texas, observed Kip Howlett, the corporate coordinator for health and safety for Georgia-Pacific Corp. There have been no bans to date on building materials containing formaldehyde, but product standards restricting formaldehyde release are coming, he said.

The Consumer Product Safety Commission banned use of urea formaldehyde foam insulation in February, citing studies showing the product to be potentially carcinogenic. The foam has been used to weatherize an estimated 500,000 to 600,000 homes since 1973.

Formaldehyde, which is emitted into the air from particleboard and other wood-based panel products containing UF glue, is "rapidly becoming caught up in a regulatory whirlwind," Howlett observed. Allowable workplace exposure levels will probably be reduced from levels common a few years ago, he said.

Improved plant ventilation, adjusted resin formulations that result in less free formaldehyde and increased use of alternative binders are three reasons that the sensory irritation caused by formaldehyde inhalation should diminish, the G-P attorney said.

Howlett noted the consensus places irritant level of formaldeyhyde fumes at 1 to 1.25 parts per million (ppm).

In Europe, formaldehyde exposure limits in workroom environments are already in place and are being scaled downward in several countries, according to Birger Sundin, chief engineer with AB Casco of Stockholm, Sweden. In Denmark, for example, the existing ceiling limit of 1.2 mg/m^3 will soon be adjusted to 0.4 mg/m^3 (1 ppm equals 1.25 mg/m^3).

"There is little doubt the suspicions that formaldehyde could be carcinogenic have colored the attitudes of regulatory agencies and trade unions in Europe," Sundin observed. "Calls for a reduction in the permitted safety level may be expected in several countries."

Sundin suspects the coming low exposure limit values in Denmark and Sweden will cause serious economical and technical problems among the users and producers of formaldehyde and formaldehyde-containing products.

Sweden was the first country in the world to introduce proposals for setting an upper limit for the formaldehyde content of air in houses. Denmark, the Netherlands and West Germany soon followed suit with far more rigorous standards. Finland has also recently introduced similar standards, following a series of complaints.

The impact of formaldehyde publicity on particleboard consumption in Europe, however, is by no means uniform, Sundin noted.

"The decline in housing construction and a fall in furniture output preclude the establishment of any direct link between the formaldehyde issue and a decline in sales," he said. "From personal experience, however, I am familiar with several reconstruction projects where property owners have abandoned particleboard in favor of other board materials in anticipation of an odor problem."

There is no surfeit of potential methods to minimize formaldehyde release, Sundin said.

"In this context, we should not lose sight of the scope available to board manufacturers for engineering the manufacturing process to reduce the content of free formaldehyde in the board when using UF resins," the engineer added.

Production parameters which can lower the content of free formaldehyde include: lowest feasible moisture content in unglued, or glued, particles; highest possible pressing temperature; longest possible pressing time; or the use of particle types which give open surfaces.

By optimizing these process engineering parameters, board manufacturers can achieve a substantial reduction in the content of releasable formaldehyde in the board and in the plant, Sundin said.

The formaldehyde debate has created a need for reliable analysis methods and underlines the importance of maintaining quality control of the particleboard production process. While several methods are commonly used to test board emissions in Europe, the two-hour desiccator test has become most widespread in the U.S.

"Controlling variation of emissions from within one 4x8 panel will only help to reduce the board-to-board variation," explained Douglas T. McVey, technical director of particleboard at Willamette Industries. "Full 4x8 panel testing is important; it's the method we use for desiccator sampling."

Programs initiated to reduce formaldehyde emissions have been going on for several years, McVey said, not primarily because of consumer pressure but for worker comfort.

According to test results of a resin manufacturer, a reduction of 68% in formaldehyde emissions by one board producer was achieved between 1971 and 1980, McVey indicated. For those companies not able to take advantage of changes in resin technology, a range of resin "scavengers" can be added to the glue formula to help tie up free formaldehyde, he said.

These scavengers are additives that chemically react with formaldehyde to reduce emissions.

A variety of surface treatments is also available to minimize formaldehyde release. "I've yet to find a coating that was not successful in reducing formaldehyde emissions," McVey said.

These coatings include formaldehyde absorbing paints, lacquers, short-cycle melamine paper, PVC foils and a wax-based hot melt coating.

As an alternative to UF resin, isocyanate has received continued scrutiny by industry researchers. The caul release problem has been overcome and the dangers of toxicity have been dealt with, according to William Johns, associate professor of wood technology at Washington State.

Research by Johns has indicated that a moisture content of 10% in isocyanate-bonded particleboard gives peak values for such properties as elasticity, modulus of rupture and the internal bonding strength.

"We're hearing out of Europe that some suppliers will let you go to 24% moisture content. I'm inclined to believe moisture content that high is doing your board no favor."

Of all physical properties, it is dimensional stability that remains most critical in determining end use of Com-Ply panels. The product has a better core than much plywood produced these days, said retired Washington State professor John Talbot, and in some applications it can replace plywood.

"It's a very stable product. You can jam the edges up next to each other, let it rain on them and they'll perform like plywood," Talbot said.

What's new in pressing?

New pressing technology designed to increase productivity received considerable attention at the symposium, as did developments in particle drying and resin blending of MDF fiber.

A process developed at the Forest Products Laboratory that injects saturated steam into a flakeboard mat during press closure can reduce the time needed to bring the center of the flakeboard to resin-curing temperatures, reported Robert L. Geimer, research technologist at the laboratory.

Total press time for a ½-in., 40 lb/ft³, phenolic-bonded flakeboard, he said, has been reduced by 60% using this process, without degrading internal bond or bending properties.

Various means to reduce press times by injecting steam into the board during some phase of the pressing cycle have been tried. All showed steam injection pressing increased the heat transfer rate, but their commercialization was hampered by the difficulties involved with sealing a large press or the additional expense of incorporating superheaters into the system.

"With the advent of high-cost energy, the potential of steam injection has become more attractive," Geimer said.

Considerable energy savings are also said to be available with a new two-opening press by Pagnoni of Italy.

The press drive system aims at saving energy by using water as a medium in low-pressure air vessels and high-pressure air-loaded hydraulic cylinders, the recharge of which occurs by pumps during board pressing. This system, that can replace a direct pump system, is said by Pagnoni to help reduce power consumption by a third.

"The idea of presenting a press line with two-opening press of great length (36 ft) was justified by the strong need for a valid alternative to the traditional solutions of multi-opening and single-opening presses," said John Hansen, president of Ligna Technology. This press was designed especially for use with radio frequency heating, allowing the system to handle extra-thick MDF mats.

The two-opening press is also adaptable to oriented strand board and waferboard production, Hansen said.

Also on the topic of MDF, a panel of experts debated the merits of blowline blending of resin and MDF fiber. Larry Hammock, production superintendent for Medford Corp., noted that blowline blending was introduced at his company's Medford, Ore., plant to eliminate objectionable "freckling" caused by resin spots on the board surface.

Blowline blending not only gets rid of resin spots, observed Gunner Gran of Sunds Defibrator of Stockholm, Sweden, but requires no special blending equipment, needs no extra space and the blowline nozzle is self-cleaning. An increase in resin consumption, caused by some pre-curing of fibers, is the system's biggest detraction, he said.

"The key to efficient blending is an even flow of materials through blending. If we're going to do a better job of this in the future, we're going to need a measurement system to determine fiber bulk density," Hammock said.

Gunter Bückling, research and development manager at Bison-Werke in West Germany, said his firm thought blowline blending was "a compromise."

"It's clear that better board appearance must be paid for by higher resin use," Bückling noted.

Industry leaders honored

Awards for distinguished service to the industry awards were presented at the symposium to Charles R. Morschauser (posthumous award), technical director of the National Particleboard Assn. for many years, and Hobert O. McQueary, president of Inter-Pacific Resin, Sweet Home, Ore., and chief of research and development at Ellingson Timber Co. in Baker, Ore.

The first inductees into a new Wood Composition Board Hall of Fame, to be maintained at Washington State University, were Dr. Fred Fahrni, Wilhelm H. Klauditz and Clark C. Heritage. ■

TABLE 1—Formaldehyde exposure limits in Western European workplaces

Country	Existing limit (parts/million)	Planned limit (parts/million)
Denmark	0.96	0.32
Finland	2.0	1.0
Norway	1.0	no change
Sweden	1.0	0.5
Holland	2.0	no change
United Kingdom	2.0	no change
Belgium	2.0	no change
West Germany	1.0	no change
Switzerland	1.0	no change
Italy	1.0	no change

Source: AB Casco, Sweden

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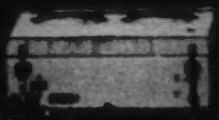
FOREST INDUSTRIES

LOGGING PULPWOOD/FORESTRY LUMBER PANELS



1982 Annual LUMBER REVIEW

A 'bite' of pine logs starts its path to becoming lumber

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JULY

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1982 Annual LUMBER REVIEW
Not that it will surprise anyone, but for most North American lumber producers, 1981 was a disastrous year

38
'Graveyard picnic' air permeates NFPA meeting
Timber industry support for Reagan's program declines as economic hardship grows, but his followers haven't decided to abandon him

42
Sawmill/logging show draws 'quality' crowd
Attendance at East Coast Expo in Richmond, Va., was down 15% this May, but 8,500 came to see the machinery and services exhibits

Cover story, page 35

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Employee training got as much attention as iron for new sawmill's setup
Georgia Kraft's mill in Coosa, Ga., relies on high-tech equipment, of course, but the human side is just as important

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It takes two companies to keep this guy busy
Contract logger Wally Smith of Overgaard, Ariz., runs two separate companies harvesting pine timber for several different timber companies

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Non-surprise news of 1982: a survey of U.S. and Canadian mills shows lumber production continues on its 40-month-old downward slide

One word describes '81's lumber output: disastrous

San Francisco, California

By Herb Lambert

That old cliché about being able to prove anything with figures or statistics falls by the wayside when it comes to reporting 1981's lumber production in any way other than disastrous.

It would be interesting, though not heartening, to be able to include in this report the number of mills (or companies) which have thrown in the towel in the past year, or which have operated at varying rates of production. Such information is not readily available, so this report must stick to the figures alone in looking at the lumber sector of the forest products industry in 1981.

Data presented here reflect, for the major part, production from 400 producers. The final figure, 39.136 billion ft (see table below), also includes combined footage from an assortment of smaller producers below the cutoff level of the 400th company—11 million ft.

Production, as used throughout this Annual Lumber Review, means softwood and hardwood combined.

The total reported for 1981 (39.136 billion ft) compares with 42.634 billion reported in the 1980 survey and 47.147 billion in 1979.

As might be expected, production patterns of many years were not altered in 1981: the West still led in the U.S., and British Columbia production was about 70% of total Canadian output.

The West reported 13.546 billion ft; the South, 9.557 billion; and the North and East, 2.053 billion. This U.S. production, from 1,270 mills, totaled 25.158 ft. In Canada, 309 mills replying produced 13.979 billion ft—with producers outside B.C. accounting for 4.242 billion.

The 25.158 billion ft reported in the survey in the U.S. compares with 29.713 billion ft which the National Forest Products Assn. reported as U.S. production in 1981, and was 84.7% of the national total.

In Canada, the Council of Forest Industries of B.C. and Statistics Canada reported national production of 16.811 billion ft in 1981. The survey total of 13.979 billion represents 83.2% of the total.

As observed earlier, almost anything can be proved with statistics. The comparative figures cited here, and cited for earlier years, prove simply that the industry has suffered severely as housing has ground to a halt.

As noted in last year's version of this annual FOREST INDUSTRIES survey, lumber production began to decline in the fall of 1979 as housing slowed. The decline continued in 1980. It continued in

Lumber production (bd ft), U.S. and Canada — 1981

	UNITED STATES		CANADA		U.S. & CANADA	
Production Range	No. Mills	Production	No. Mills	Production	No. Mills	Production
Over 50MM	89	12,310,708,400	112	10,004,475,795	201	22,315,184,195
25 to 50MM	156	5,505,599,967	76	2,796,516,484	232	8,302,116,451
10 to 25MM	275	4,389,397,395	58	896,631,928	333	5,286,029,323
5 to 10MM	250	1,768,298,625	24	170,341,872	274	1,938,640,497
3 to 5MM	184	702,301,744	19	73,963,521	203	776,265,265
Other	316	481,502,685	20	36,671,605	336	518,174,290
TOTALS	**1,270**	**25,157,808,816**	**309**	**13,978,601,205**	**1,579**	**39,136,410,021**

Lumber production (bd ft), U.S. and Canada — 1980

	UNITED STATES		CANADA		U.S. & CANADA	
Production Range	No. Mills	Production	No. Mills	Production	No. Mills	Production
Over 50MM	115	13,330,385,290	120	11,303,609,380	235	24,633,994,670
25 to 50MM	171	5,987,357,139	72	2,700,075,495	243	8,687,432,634
10 to 25MM	296	4,630,790,980	63	990,621,144	359	5,621,412,124
5 to 10MM	287	1,975,948,669	31	227,842,717	318	2,203,791,386
3 to 5MM	233	889,856,299	16	63,239,405	249	953,095,704
Other	335	499,999,834	18	33,941,529	353	533,941,363
TOTALS	**1,437**	**27,314,338,211**	**320**	**15,319,329,670**	**1,757**	**42,633,667,881**

Leading 400 lumber producers

(Ranked according to data received

1.	Weyerhaeuser Co. (38 mills) Tacoma, Wash.	2,774,000,000
2.	Georgia-Pacific Corp. (42) Portland, Ore. (Atlanta, Ga.)	1,418,629,000
3.	Louisiana-Pacific Corp. (60) Portland, Ore.	1,287,000,000
4.	MacMillan Bloedel Ltd. (10) Vancouver, B.C.	916,655,000
5.	Boise Cascade (21) Boise, Idaho	730,631,000
6.	International Paper Co. (21) Dallas, Texas	719,884,000
7.	Crown Zellerbach (16) San Francisco, Calif.	717,900,000
8.	Canadian Forest Products Ltd. (14) Vancouver, B.C.	649,514,000
9.	Weldwood of Canada Ltd. (10) Vancouver, B.C.	649,218,000
10.	West Fraser Timber Co. Ltd. (6) Quesnel, B.C.	647,913,000
11.	British Columbia Forest Products Ltd. (8) Vancouver, B.C.	627,238,000
12.	St. Regis Paper Co. (12) Tacoma, Wash.	543,800,409
13.	Champion International Corp. (18) Stamford, Conn.	513,497,000
14.	Diamond International (12) Red Bluff, Calif.	476,000,000
15.	Northwood Pulp & Timber Ltd. (4) Prince George, B.C.	470,869,000
16.	B.C. Timber Ltd. (7) Vancouver, B.C.	470,738,000
17.	Simpson Timber Co. (7) Seattle, Wash.	467,914,000
18.	Potlatch Corp. (10) Lewiston, Idaho	451,480,000
19.	Whonnock Industries (7) Vancouver, B.C.	416,170,000
20.	Sierra Pacific Industries (8) Redding, Calif.	386,000,000
21.	Normick-Perron Inc. (6) La Sarre, Que.	302,300,400
22.	Union Camp Corp. (8) Savannah, Ga.	298,972,000
23.	Edward Hines Lumber Co. (10) Chicago, Ill.	291,900,000
24.	Pope & Talbot Inc. (5) Portland, Ore.	291,555,000
25.	Abitibi-Price Lumber Ltd. (6) Toronto, Ont.	290,610,000
26.	Publisher's Paper Co. (4) Lake Oswego, Ore.	287,206,000
27.	Willamette Industries (8) Portland, Ore.	286,880,000
28.	Bohemia Inc. (10) Eugene, Ore.	273,000,000
29.	Doman Industries Ltd. (4) Duncan, B.C.	245,820,000
30.	Kimberly-Clark Corp. (7) Coosa Pines, Ala.	244,013,000
31.	Plum Creek Lumber (6) Columbia Falls, Mont.	243,752,000
32.	Roseburg Lumber Co. (4) Roseburg, Ore.	240,891,000
33.	Coastal Lumber Co. (19) Weldon, N.C.	239,942,000
34.	The Continental Group (9) Savannah, Ga.	222,719,000
35.	Forex Inc. (6) Val d'Or, Que.	216,000,000
36.	Netherlands Overseas Mills (3) Prince George, B.C.	201,000,000
37.	Saucier Forest Products Ltd. (3) Labelle-Quevillon, Que.	200,000,000
38.	Georgia Kraft, Woodkraft Div. (3) Peachtree City, Ga.	195,000,000
39.	Finlay Forest Industries Ltd. (2) Mackenzie, B.C.	193,000,000
40.	Gilman Paper Co. (4) St. Marys, Ga.	190,242,453
41.	J.D. Irving Ltd. (7) St. John, N.B.	180,700,000
42.	Southwest Forest Industries (11) Phoenix, Ariz.	177,615,000
43.	Great Northern Nekoosa Corp. (4) Stamford, Conn.	163,500,000
44.	Slocan Forest Products Ltd. (2) Richmond, B.C.	158,873,000
45.	Tahsis Co. Ltd. (1) Vancouver, B.C.	158,819,000
46.	Crestbrook Forest Industries (3) Cranbrook, B.C.	155,639,000
47.	Swanson Lumber Co. (3) Edmonton, Alta.	151,923,000
48.	Evans Products Co. (4) Portland, Ore.	147,988,000
49.	American Forest Products Co. (4) San Francisco, Calif.	146,799,000
50.	Eurocan Pulp & Paper Co. (2) Kitimat, B.C.	146,000,000

1981. And it continued in the first half of 1982. The downslide is dramatic.

Two sets of data which traditionally have generated the most questions to the editors are the "relative rankings" of the Top 25 producers replying to our survey, and the list of Top 100 producers in North America.

In the chart of relative rankings (see p. 22), please note that B.C. Timber, number 16 in 1981, formerly was called Canadian Cellulose. The company has consistently been counted among North America's top 25 lumber producers.

For the Top 100 producers, comparative data are shown for 1981 and the preceding nine years. In 1981, these producers accounted for 29.956 billion bd ft and listed 657 mills as their producing units. As can be seen from the table on p. 21, one must go back to 1976 to find the next lowest total—when it was 27.978 billion ft. The next lowest "cutoff" volume for the 100th producer is found in 1973, when it was 72 million, compared with 74.580 in 1981. The lowest shown was 56.5 million, the cutoff volume in 1975.

Inasmuch as 1982 now is half gone, there is little likelihood that final production figures for this year will differ much from those of 1981. They could, in fact, finally show somewhat less volume than in 1981, although one hopes that will not happen. Some upturn could begin before this summer wanes.

Any mention of an upturn in housing and, consequently, an upturn in building materials production—lumber, plus plywood, panels and other items—must also consider a potential marketplace squeeze. As production struggles to meet demand, in a vigorous market, the squeeze will be felt and, with it, perhaps there will be an outpouring of criticism of the producers—or the industry. As mills push to meet demand (perhaps, and we hope, sometime in 1983) there may be yet another "scandal" about the costs of building materials.

If history's pattern is repeated, the basic economic lesson of supply and demand will be ignored and there could be cries for "investigation" of the industry.

If the observation may be allowed, here and now, the government and the "investigators" can save considerable time and money simply by referring to the records of past hearings and investigations . . . period. ■

— United States and Canada

by FOREST INDUSTRIES by June 2, 1982)

51.	The Pas Lumber Co. (1) Prince George, B.C.	145,730,383
52.	Mountain Fir Lumber Co. Inc. (4) Salem, Ore.	140,863,000
53.	Pinette & Therrien Mills Ltd. (2) Williams Lake, B.C.	139,092,000
54.	Pacific Lumber Co. (3) San Francisco, Calif.	138,045,500
55.	Willamina Lumber Co. (3) Portland, Ore.	133,600,000
56.	Tolko Industries Ltd. (2) Vernon, B.C.	131,600,000
57.	Eel River Sawmills Inc. (3) Fortuna, Calif.	127,967,000
58.	White Swan Lumber Co. Inc. (4) White Swan, Wash.	120,672,237
59.	Wickes Forest Industries (5) Dinuba, Calif.	119,951,000
60.	Les Materiaux Blanchet Inc. (3) St. Pamphile, Que.	115,500,000
61.	Ainsworth Lumber Co. Ltd. (3) 100 Mile House, B.C.	115,000,000
62.	Rustad Bros. & Co. Ltd. (1) Prince George, B.C.	113,000,000
63.	Hammermill Paper Co. (16) Selma, Ala.	112,220,824
64.	Duke City Lumber Co. (7) Albuquerque, N.M.	112,023,500
65.	Domtar Forest Products Group (4) Montreal, Que.	112,000,000
66.	Cipa Industries Ltd. (2) Vancouver, B.C.	110,483,000
67.	Kirby Forest Industries Inc. (3) Houston, Texas	110,081,683
68.	Lignum Ltd. (2) Vancouver, B.C.	109,681,000
69.	Summit Timber Co. (1) Everett, Wash.	106,307,953
70.	Federated Cooperatives Ltd. (2) Canoe, B.C.	106,000,000
71.	Medford Corp. (2) Medford, Ore.	105,305,000
72.	Revelstoke Companies Ltd. (5) Calgary, Alta.	102,814,268
73.	ITT Rayonier Inc. (16) Stamford, Conn.	102,619,000
74.	Arcata Redwood Co. (2) Arcata, Calif.	102,540,000
75.	Donohue St-Felicien Inc. (3) Quebec, Que.	99,532,000
76.	Jacobson Bros. Forest Products (1) Williams Lake, B.C.	99,492,097
77.	Pacific Lumber & Shipping Co. (3) Seattle, Wash.	99,074,226
78.	Idaho Forest Industries (3) Coeur d'Alene, Idaho	98,542,000
79.	Temple-Eastex Inc. (2) Diboll, Texas	98,224,000
80.	Owens-Illinois Inc. (3) Toledo, Ohio	98,168,000
81.	RSG Forest Products (1) Kalama, Wash.	98,076,942
82.	Stimson Lumber Co. (2) Portland, Ore.	97,848,961
83.	Consolidated-Bathurst Inc. (5) Montreal, Que.	90,382,606
84.	S&R Sawmills Ltd. (3) Surrey, B.C.	87,000,000
85.	Scott Paper Co. (6) Philadelphia, Pa.	85,497,000
86.	Bennett Lumber Products Inc. (2) Princeton, Idaho	85,446,054
87.	P&M Lumber Products Inc. (4) Stockton, Calif.	85,167,000
88.	Fort Nelson Forest Ind. Ltd. (1) Fort Nelson, B.C.	84,830,000
89.	Harwood Products (2) Willits, Calif.	84,365,736
90.	Levesque Lumber (Hearst) Ltd. (1) Hearst, Ont.	84,283,000
91.	Carrier Lumber Ltd. (1) Prince George, B.C.	79,931,340
92.	Collins Pine Co. (2) Portland, Ore.	79,070,432
93.	E.B. Eddy Forest Products Ltd. (3) Ottawa, Ont.	78,291,000
94.	American Timber Co. (1) Olney, Mont.	78,139,515
95.	Avison Lumber Co. (1) Molalla, Ore.	77,194,000
96.	Drew Sawmills Ltd. (1) Malakwa, B.C.	76,000,000
97.	Balfour Guthrie Canada Ltd. (1) Prince George, B.C.	75,700,000
98.	American Can Co. (3) Greenwich, Conn.	75,248,000
99.	F.H. Stoltze Land & Lumber Co. (3) Columbia Falls, Mont.	75,112,509
100.	Manville Forest Products Corp. (3) West Monroe, La.	74,580,322

Comparative data — Top 100 companies — 1972-1981

(Millions of bd ft)
(U.S. and Canadian companies)

Calendar year	Total volume reported in the survey	Total volume reported by Top 100 Co.'s	Number mills in Top 100	Total volume by year's top producer	Cutoff volume of year's 100th producer	Co.'s producing more than one billion bd ft
1981	39,136	26,956	657	2,744	74.580	3
1980	42,633	28,037	641	2,889	80.000	4
1979	47,699	31,599	634	2,955	91.300	4
1978	49,268	32,142	629	2,662	90.634	5
1977	46,256	30,988	645	2,806	85.282	5
1976	41,330	27,978	639	2,702	77.333	4
1975	33,100	22,023	633	2,530	56.500	2
1974	37,869	24,652	589	2,541	65.470	3
1973	39,443	26,334	547	2,405	72.000	4
1972	38,840	24,922	483	2,392	71.295	3

Leading North American producers

101.	Zeidler Forest Industries Ltd. (3) Edmonton, Alta.	74,289,000	
102.	Fraser Inc. (2) Edmunston, N.B.	73,870,000	
103.	Kaibab Industries (4) Phoenix, Ariz.	72,658,945	
104.	Burrill Lumber Co. (1) Medford, Ore.	72,312,000	
105.	Shell Canada Resources Ltd. (1) Calgary, Alta.	72,235,000	
106.	Federal Paper Board Co. Inc. (2) Riegelwood, N.C.	72,000,000	
107.	Manke Lumber Co. Inc. (2) Tacoma, Wash.	71,516,528	
108.	TMA Forest Products (5) Jasper, Alta.	71,116,000	
109.	Joe N. Miles & Sons (3) Lumberton, Miss.	71,000,000	
110.	Dant & Russell Inc. (2) Portland, Ore.	70,854,750	
111.	Gregory Industries Ltd. (3) Delta, B.C.	70,000,000	
112.	Bowater North American Corp. (2) Greenville, S.C.	69,251,000	
113.	Rosboro Lumber Co. (1) Springfield, Ore.	68,704,000	
114.	La Scierie Taschereau Inc. (2) Taschereau, Que.	67,000,000	
115.	G.W. Martin Lumber Ltd. (5) Harcourt, Ont.	66,030,000	
116.	North Pacific Lumber Co. Inc. (2) Portland, Ore.	65,074,000	
117.	Buchanan Hardwoods Inc. (4) Selma, Ala.	65,000,000	
118.	Crete & Fils Inc., Gerard (2) Proulxville, Que.	65,000,000	
119.	Apollo Forest Products Ltd. (1) Fort St. James, B.C.	64,403,851	
120.	Lakeland Mills Ltd. (1) Prince George, B.C.	64,000,000	
121.	Scotch Lumber Co. (3) Fulton, Ala.	62,009,650	
122.	SDS Lumber Co. (3) Bingen, Wash.	62,009,650	
123.	Sun Studs Inc. (1) Roseburg, Ore.	62,000,000	
124.	Anderson-Tully (3) Memphis, Tenn.	61,464,844	
125.	Koppers Co. Inc. (21) Pittsburgh, Pa.	61,068,000	
126.	L&K Lumber (North Shore) Ltd. (1) North Vancouver, B.C.	60,736,190	
127.	Mayr Bros. Lumber Co. (2) Hoquiam, Wash.	60,000,000	
128.	McNamara & Peepe Lumber (2) Crescent City, Calif.	59,661,636	
129.	Maibec Industries Inc. (2) Ste. Foy, Que.	59,625,000	
130.	Great West Timber Ltd. (1) Thunder Bay, Ont.	58,000,000	
131.	Mackenzie Forest Products Inc. (1) Hudson, Ont.	56,700,000	
132.	North Side Lumber (1) Philomath, Ore.	56,500,000	
133.	Sask. Forest Products Corp. (2) Prince Albert, Sask.	56,200,000	
134.	Allied Forest Products Inc. (3) Portland, Ore.	55,302,000	
135.	Boyd Lumber Corp. (2) Sedro Woolley, Wash.	55,000,000	
136.	Sciere St. Michel Inc. (2) St. Michel, Que.	55,000,000	

Relative rankings

(Based on companies responding in each of the years. Figures in parentheses indicate ranking outside the 25 places which this list represents.)

Company	'81	'80	'79
Weyerhaeuser	1	1	1
Georgia-Pacific	2	3	3
Louisiana-Pacific	3	2	2
MacMillan Bloedel	4	4	4
Boise Cascade	5	9	8
International Paper	6	10	14
Crown Zellerbach	7	5	6
Canadian Forest Products	8	7	5
Weldwood Canada	9	8	9
West Fraser Timber	10	11	12
B. C. Forest Industries	11	6	7
St. Regis	12	16	15
Champion International	13	14	10
Diamond International	14	17	20
Northwood Pulp & Timber	15	13	13
B.C. Timber*	16	20	(27)
Simpson Timber	17	12	16
Potlatch Corp.	18	15	11
Whonnock Industries	19	18	19
Sierra Pacific Industries	20	19	18
Normick-Perron	21	22	25
Union Camp	22	(27)	(32)
Edward Hines	23	(29)	(28)
Pope & Talbot	24	(28)	23
Abitibi-Price	25	(34)	(34)

*In '80 and '79, Canadian Cellulose

Lumber production (bd ft)

Production Range	WEST No. Mills	WEST Production	SOUTH No. Mills	SOUTH Production
Over 50MM	65	7,612,908,972	20	4,303,211,481
25 to 50MM	95	3,403,009,833	56	1,949,854,366
10 to 25MM	124	2,085,824,053	122	1,892,989,863
5 to 10MM	44	321,895,321	132	935,502,858
3 to 5MM	14	51,672,538	82	320,331,763
Other	58	71,680,863	103	155,407,373
TOTALS	**400**	**13,546,991,579**	**515**	**9,557,297,704**

Lumber production (bd ft)

Production Range	WEST No. Mills	WEST Production	SOUTH No. Mills	SOUTH Production
Over 50MM	85	8,848,781,392	26	4,058,466,486
25 to 50MM	105	3,658,264,209	60	2,110,391,830
10 to 25MM	116	1,933,534,224	145	2,216,183,621
5 to 10MM	50	361,426,729	155	1,064,970,831
3 to 5MM	32	120,359,669	110	423,929,360
Other	56	62,161,634	106	170,728,826
TOTALS	**444**	**14,984,527,857**	**602**	**10,044,670,954**

137.	Gregory Timber Resources Inc. (2) Glendale, Ore.	54,933,000	
138.	Anthony Timberlands Inc. (5) Bearden, Ark.	54,805,000	
139.	Langdale Co. (1) Valdosta, Ga.	54,762,986	
140.	Malette Lumber Inc. (1) Timmins, Ont.	54,000,000	
141.	Manitoba Forest Resources Ltd. (1) The Pas, Man.	53,398,192	
142.	Memphis Hardwood Flooring (4) Memphis, Tenn.	53,000,000	
143.	L&M Lumber Ltd. (1) Vanderhoof, B.C.	52,897,799	
144.	Brazier Forest Products Inc. (1) Molalla, Ore.	52,778,000	
145.	Spruce Falls Pwr. & Paper Co. (1) Kapuskasing, Ont.	52,500,000	
146.	Warm Springs Forest Products Inc. (1) Warm Springs, Ore.	52,358,126	
147.	Raven Lumber Ltd. (1) Campbell River, B.C.	52,135,000	
148.	United Sawmill Ltd. (3) Hearst, Ont.	51,614,827	
149.	Davidson Industries (2) Mapleton, Ore.	51,587,000	
150.	New South Forest Industries (2) Conway, S.C.	51,560,000	
151.	Modoc Lumber Co. (1) Klamath Falls, Ore.	50,370,369	
152.	Dubreuil Bros. Ltd. (1) Dubreuilville, Que.	50,269,826	
153.	Douglas County Lumber Co. (1) Roseburg, Ore.	50,000,000	
154.	Gulf Lumber Co. (1) Mobile, Ala.	50,000,000	
155.	Greenwood Forest Products Ltd. (1) Penticton, B.C.	50,000,000	
156.	Bisson & Bisson (1) Matagami, Que.	49,646,172	
157.	Michigan California Lumber (1) Camino, Calif.	49,418,000	
158.	Del-Cook Lumber Co. (1) Adel, Ga.	49,016,172	
159.	Ellingson Lumber Co. (1) Baker, Ore.	48,386,000	
160.	Elk Lake Planing Mill (2) Elk Lake, Ont.	48,000,000	
161.	Hudson Lumber (2) Anderson, Calif.	47,729,060	
162.	Groot Logging Ltd. (1) Smithers, B.C.	46,543,000	
163.	Spalding & Son Inc. (1) Grants Pass, Ore.	46,400,000	
164.	Webster Lumber Co. (9) Wayzata, Minn.	46,200,000	
165.	Pacific Forest Products Ltd. (2) Victoria, B.C.	45,580,000	
166.	Nechako Lumber Ltd. (1) Vanderhoof, B.C.	45,488,613	
167.	Bond Bros. Sawmill (1) Vanderhoof, B.C.	45,107,536	
168.	Merrill & Ring Inc. (1) Port Angeles, Wash.	45,036,022	
169.	Olympic Forest Products (1) Mist, Ore.	45,000,000	
170.	Connor Forest Industries (6) Wausau, Wis.	44,420,000	
171.	Alaska Lumber & Pulp Co. Inc. (2) Wrangell, Alaska	44,365,679	
172.	Oregon Cedar Products Co. (1) Springfield, Ore.	44,000,000	

by regions — 1981

Production Range	NORTH & EAST No. Mills	NORTH & EAST Production	BRITISH COLUMBIA No. Mills	BRITISH COLUMBIA Production	OTHER CANADIAN No. Mills	OTHER CANADIAN Production
Over 50MM	4	394,587,947	89	8,258,039,143	23	1,746,436,652
25 to 50MM	5	152,735,768	31	1,191,660,614	45	1,604,855,870
10 to 25MM	29	410,583,479	17	249,914,214	41	646,717,714
5 to 10MM	74	510,900,447	2	13,581,000	22	156,760,872
3 to 5MM	88	330,297,443	4	13,321,000	15	60,642,521
Other	155	254,414,449	6	9,841,098	14	26,830,507
TOTALS	**355**	**2,053,519,533**	**149**	**9,736,357,069**	**160**	**4,242,244,136**

by regions — 1980

Production Range	NORTH & EAST No. Mills	NORTH & EAST Production	BRITISH COLUMBIA No. Mills	BRITISH COLUMBIA Production	OTHER CANADIAN No. Mills	OTHER CANADIAN Production
Over 50MM	4	423,137,412	93	9,434,943,314	27	1,868,666,066
25 to 50MM	6	218,701,100	29	1,065,419,869	43	1,634,655,626
10 to 25MM	35	481,073,135	16	237,529,078	47	753,092,066
5 to 10MM	82	549,551,109	4	30,676,000	27	197,166,717
3 to 5MM	91	345,567,270	3	11,526,000	13	51,713,405
Other	173	267,109,374	5	9,631,343	13	24,310,186
TOTALS	**391**	**2,285,139,400**	**150**	**10,789,725,604**	**170**	**4,529,604,066**

Leading North American producers

173.	Scierie Des Outardes, (1) Hauterive, Que.	44,000,000
174.	Navajo Forest Products Ind. (1) Navajo, N.M.	43,358,217
175.	Brand-S Corp. (1) Corvallis, Ore.	42,851,000
176.	Wetsel-Oviatt Lumber Co. (1) Shingle Springs, Calif.	42,314,560
177.	Harrigan Lumber Co. Inc. (1) Monroeville, Ala.	41,248,280
178.	Delson Lumber Co. (1) Olympia, Wash.	41,000,000
179.	Tolleson Lumber Co. Inc. (3) Perry, Ga.	41,000,000
180.	Vanport Manufacturing Co. (3) Boring, Ore.	40,617,944
181.	Hanel Lumber Co. (1) Hood River, Ore.	40,355,723
182.	Poulin & Pouliot Ltee. (1) St. Camille Bellechasse, Que.	40,000,000
183.	Buse Timber & Sales Inc. (1) Marysville, Wash.	39,927,000
184.	J.P. Hamer Lumber Co. (6) Kenova, W. Va.	39,907,000
185.	Gilchrist Timber Co. (1) Gilchrist, Ore.	39,800,000
186.	Raoul Guerette Inc. (2) Degelis, Que.	39,320,000
187.	Mill & Timber Products (1) Surrey, B.C.	38,852,000
188.	W-I Forest Products Inc. (2) Wilsonville, Ore.	38,553,000
189.	Nova Lumber Co. Ltd. (1) West Vancouver, B.C.	38,435,000
190.	Schmidbauer Lumber Inc. (1) Eureka, Calif.	38,215,155
191.	Snider Industries (1) Marshall, Texas	38,000,000
192.	Gorman Bros. Lumber & Box (1) Westbank, B.C.	38,000,000
193.	Scierie Landrienne Inc. (1) Landrienne, Que.	38,000,000
194.	Chesapeake Corp. of Virginia (4) West Point, Va.	37,550,000
195.	Evergreen Lumber Co. (4) Snowflake, Ariz.	37,000,000
196.	Hankins Lumber Co. Inc. (2) Grenada, Miss.	36,776,091
197.	Balfour Lumber Co. (1) Thomasville, Ga.	36,573,000
198.	Sierra Forest Products (1) Terra Bella, Calif.	36,350,000
199.	Dean-Dempsey Lumber Co. (2) Orangeburg, S.C.	35,501,700
200.	AT&N Lumber Service Inc. (3) York, Ala.	35,500,000
201.	Pinecrest Lumber Co. (1) Plumerville, Ark.	35,000,000
202.	Sheppard Lumber Co. Inc., W. (1) Brooklet, Ga.	35,000,000
203.	Murray Bros. Lumber Ltd. (1) Madawaska, Ont.	35,000,000
204.	Decker Lake Forest Products (1) Burns Lake, B.C.	35,000,000
205.	Friesen Lumber Co. (1) St. Helens, Ore.	34,000,000
206.	Welco Lumber Co. (2) Marysville, Wash.	33,951,538
207.	Erickson Lumber Co. (1) Marysville, Calif.	33,677,140
208.	Z Mills (1) Eugene, Ore.	33,500,000
209.	Charles Ingram Lumber Co. (1) Florence, S.C.	33,357,000
210.	Molpus Lumber Co. (3) Philadelphia, Miss.	33,039,000
211.	Hemphill-O'Neill Lumber Co. Inc. (1) Chehalis, Wash.	33,000,000
212.	J&J Logging & Lumber Corp. (3) Dover Plains, N.Y.	33,000,000
213.	Buchanan Lumber Ltd. (1) High Prairie, Alta.	32,387,000
214.	D.R. Johnson Lumber Co. (1) Riddle, Ore.	32,359,000
215.	Griffin Lumber Co. (3) Cordele, Ga.	32,170,000
216.	Guy Bennett Lumber Co. (1) Clarkston, Wash.	32,127,108
217.	Fremont Sawmill Co. (1) Lakeview, Ore.	32,000,000
218.	Newaygo Forest Products Ltd. (1) Hearst, Ont.	32,000,000
219.	Moore Mill & Lumber Co. (2) Bandon, Ore.	31,758,403
220.	Seaboard Lumber Co. (1) Seattle, Wash.	31,518,405
221.	Ochoco Lumber Co. (1) Prineville, Ore.	31,053,000
222.	Keadle Lumber Enterprises Jnc. (2) Thomaston, Ga.	30,751,727
223.	Aspen Planers Ltd. (1) Merritt, B.C.	30,600,000
224.	Snider Lumber Products (2) Turlock, Calif.	30,483,655
225.	Anthony Forest Products Co. (4) El Dorado, Ark.	30,000,000
226.	Loper Lumber Co. Inc. (3) Tuscaloosa, Ala.	30,000,000
227.	Nagel Lumber Co. Inc. (1) Land O'Lakes, Wis.	30,000,000
228.	T.R. Miller Mill Co. Inc. (1) Brewton, Ala.	30,000,000
229.	West Coast Lumber Operations (1) Tacoma, Wash.	29,999,000
230.	Thompson Hardwoods Inc. (2) Hazlehurst, Ga.	29,873,000
231.	Westvaco Lumber (1) Summerville, S.C.	29,078,600
232.	Juniper Lumber Co. Ltd. (2) Juniper, N.B.	28,989,000
233.	North Anson Reel Co. (1) North Anson, Maine	28,735,768
234.	Lulumco Inc. (1) Luceville, Que.	28,621,098
235.	Cone Lumber Co. (1) Goshen, Ore.	28,224,000
236.	Weier's Sawmill Ltd. (1) Quesnel, B.C.	28,000,000
237.	Marcel Lauzon Inc. (1) East Hereford, Que.	27,036,880
238.	Pyramid Mountain Lumber (1) Seeley Lake, Mont.	27,000,000
239.	H.V. & T.G. Thompson Lumber (1) Ailey, Ga.	26,989,000
240.	Layman Lumber Co. (1) Naches, Wash.	26,962,000
241.	Prairie Wood Products (1) Riddle, Ore.	26,827,000
242.	Gray Lumber Co. (1) Waverly, Va.	26,782,634
243.	Gram Lumber Co. (1) Kalama, Wash.	26,583,055
244.	Hi-Ridge Lumber Co. (1) Yreka, Calif.	26,424,000
245.	Chasse Inc. (1) Ste.-Marie Beauce, Que.	26,302,895
246.	Deltic Farm & Timber Co. Inc. (2) El Dorado, Ark.	26,094,000
247.	Jordan Lumber & Supply (1) Mt. Gilead, N.C.	26,000,000
248.	Johnston & Rhodes Bluestone (1) East Branch, N.Y.	26,000,000
249.	Arkansas Oak Flooring Co. (2) Pine Bluff, Ark.	25,934,000
250.	LaCroix Lumber Ltd. (2) Charlton, Que.	25,613,500

251.	C&D Lumber Co. (1) Riddle, Ore.	25,505,552
252.	Hutchins Lumber Inc. (2) Weippe, Idaho	25,301,138
253.	Shuqualak Lumber Co. Inc. (1) Shuqualak, Miss.	25,172,000
254.	Inter-State Lumber Co. Inc. (2) Kingwood, N.Y.	25,000,000
255.	East Brainerd Lumber Co. Inc. (1) Chattanooga, Tenn.	25,000,000
256.	A.L. Lafreniere Lumber (1) Chapeau, Ont.	25,000,000
257.	Cleveland-Cliffs Iron Co. (1) Cleveland, Ohio	24,616,000
258.	Castle Mountain Corp. (1) White Sulphur Springs, Mont.	24,310,000
259.	DG Shelter Products, Klamath Div. (1) Klamath Falls, Ore.	24,258,000
260.	Kamiah Mills (1) Kamiah, Idaho	24,219,000
261.	Ramsey Lumber Co. (2) Suffolk, Va.	24,016,066
262.	C.M. Tucker Lumber (1) Pageland, S.C.	24,000,000
263.	Roper Bros. Lumber Co. (1) Petersburg, Va.	24,000,000
264.	Pine Products Corp. (1) Prineville, Ore.	24,000,000
265.	Averitt Lumber Co. (3) Clarksville, Tenn.	23,312,000
266.	Caffall Bros. Forest Products (2) Wilsonville, Ore.	23,260,000
267.	Rogge Lumber Inc. (1) Wallowa, Ore.	23,201,646
268.	M.C. Dixon Lumber Co. Inc. (1) Eufaula, Ala.	22,955,737
269.	Martin Timber Co. Inc. (1) Castor, La.	22,782,000
270.	McCully & Soy Ltd. (2) Truro, N.S.	22,627,668
271.	Rajala Lumber Co. (2) Deer River, Minn.	22,500,000
272.	Galloway Lumber Co. (1) Galloway, S.C.	22,500,000
273.	Superior Lumber Co. (1) Glendale, Ore.	22,210,442
274.	Bates Lumber Co. (1) Hot Springs, Ark.	22,168,295
275.	Butler Lumber Co. Inc. (4) Chase City, Va.	22,000,000
276.	P.E. Barnes Lumber (5) Hamburg, Ark.	22,000,000
277.	Delta Cedar Products (1) North Delta, B.C.	22,000,000
278.	J.E. Martel & Sons Lumber (1) Chapleau, Ont.	22,000,000
279.	Allen Logging Co. (2) Forks, Wash.	21,656,601
280.	Wade Wood Inc. (1) Wade, N.C.	21,548,000
281.	Columbus Lumber Co. (1) Brookhaven, Miss.	21,500,00
282.	Broughton Lumber Co. (1) Underwood, Wash.	21,500,000
283.	E.B. Yancey Lumber Co. (1) Madera, Calif.	21,268,000
284.	Tangfeldt Wood Products Co. (1) Eugene, Ore.	21,042,000
285.	Williams Lumber Co. Inc. (1) Rocky Mount, N.C.	21,000,000
286.	Pine Mountain Lumber Co. (1) Yreka, Calif.	21,000,000
287.	Harris Pine Mills (1) Pendleton, Ore.	21,000,000
288.	Kitwanga Lumber Co. (1) Kitwanga, B.C.	21,000,000
289.	Cedar Lumber Inc. (1) Mill City, Ore.	20,557,000
290.	Lake Region Lumber Co. (1) Casco, Maine	20,355,428
291.	Crane Mills (1) Corning, Calif.	20,307,000
292.	Cambria Forest Industries Inc. (1) Newcastle, Wyo.	20,300,000
293.	Merritt Bros. Lumber Co. Inc. (1) Priest River, Idaho	20,000,000
294.	W.W. Lumber Co. (1) Cottage Grove, Ore.	20,000,000
295.	Mebane Lumber Co. Inc. (1) Mebane, N.C.	20,000,000
296.	Calandor Pine Corp. (1) Alturas, Calif.	20,000,000
297.	Potomac Supply Corp. (1) Kinsale, Va.	20,000,000
298.	Hinchcliff Products Co. (2) Strongsville, Ohio	20,000,000
299.	Chiloquin Forest Products (1) Chiloquin, Ore.	20,000,000
300.	Stayton Wood Products Inc. (1) Stayton, Ore.	20,000,000
301.	Paul Bunyan Lumber Co. (1) Anderson, Calif.	19,990,000
302.	Big Valley Lumber Co. (1) Bieber, Calif.	19,827,000
303.	Kelly Enterprises Inc. (7) Pittsfield, Mass.	19,550,000
304.	Keller Lumber Co. (1) Roseburg, Ore.	19,048,000
305.	Quebec Hardwoods Inc. (1) Thurbo, Que.	18,800,000
306.	Evergreen Forest Products Inc. (1) New Meadows, Idaho	18,694,415
307.	St. Johns Forest Products Co. (1) Portland, Ore.	18,687,620
308.	Consolidated Pine Inc. (1) Prineville, Ore.	18,652,500
309.	Wells Inc. (1) Sharptown, Md.	18,363,000
310.	Kimball International Inc. (4) Jasper, Ind.	18,220,437
311.	Zip-O-Log Mills Inc. (1) Eugene, Ore.	18,000,000
312.	Copiah County Manufacturing (1) Hazlehurst, Miss.	18,000,000
313.	A.J.D. Forest Products Inc. (1) Grayling, Mich.	18,000,000
314.	Taylor Lumber Co. (1) Beaverton, Ore.	17,999,557
315.	H.G. Toller & Son Lumber Co. (1) Leola, Ark.	17,918,637
316.	Menominee Tribal Enterprises (1) Neopit, Wis.	17,663,778
317.	Custer Lumber Co. (1) Custer, S.D.	17,517,000
318.	Wood Reels Inc. (1) Hartselle, Ala.	17,500,000
319.	Alton Packaging Corp. (1) Alton, Ill.	17,456,822
320.	Owens & Hurst Lumber (1) Eureka, Mont.	17,452,000
321.	T.J. Moss Lumber Co. (3) Rodgersville, Ala.	17,415,000
322.	McShan Lumber Co. Inc. (1) McShan, Ala.	17,000,000
323.	Culp Lumber Co. (1) New London, N.C.	17,000,000
324.	Semac Industries (3) Millersburg, Ohio	16,975,000
325.	Greensboro Lumber Co. (2) Greensboro, Ga.	16,805,775
326.	Paxport Mills Inc. (1) Tacoma, Wash.	16,631,000
327.	Gosselin Lumber Co. (1) Hearst, Ont.	16,500,000
328.	Doyle Lumber Inc. (1) Martinsville, Va.	16,340,000

Leading North American producers

329. Lampert Lumber Co. (2) St. Paul, Minn. — 16,204,000
330. Seattle-Snohomish Mill Co. Inc. (1) Snohomish, Wash. — 16,000,000
331. Dickert Lumber Co. (3) Newberry, S.C. — 16,000,000
332. Cersosimo Lumber Co. (3) Brattleboro, Vt. — 16,000,000
333. Abell Lumber Corp. (1) Lawrenceville, Va. — 16,000,000
334. Western Constr. & Lumber Co. Ltd. (1) Edmonton, Alta. — 16,000,000
335. Spray Lake Sawmills Ltd. (1) Cochrane, Alta. — 15,673,608
336. Schnabel Lumber Co. (1) Haines, Alaska — 15,575,800
337. Lakeview Lumber Products (1) Lakeview, Ore. — 15,488,262
338. Mitkof Lumber Products (1) Petersburg, Alaska — 15,218,005
339. Beadles Lumber Co. (1) Mountrie, Ga. — 15,100,000
340. Kitchens Bros. Mfg. (2) Utica, Miss. — 15,026,662
341. Hull-Oakes Lumber (1) Monroe, Ore. — 15,000,000
342. Forest Products Inc. (1) Corbin, Ky. — 15,000,000
343. Varn Wood Products (1) Hoboken, Ga. — 15,000,000
344. Flodin Lumber & Mfg. Co. (1) Plains, Mont. — 14,894,000
345. United Timber Corp. (3) Dixfield, Maine — 14,500,000
346. Neiman Sawmill (1) Hulett, Wyo. — 14,440,000
347. Lausmann Lumber & Mldg. (1) Loomis, Calif. — 14,000,000
348. Tigerton Lumber Co. (4) Tigerton, Wis. — 14,000,000
349. Pacific Studs Inc. (1) Cimarron, N.M. — 14,000,000
350. Collum's Lumber Mill Inc. (1) Allendale, S.C. — 14,000,000
351. Ocala Lumber Sales Co. (1) Ocala, Fla. — 14,000,000
352. Conrad Pouiin & Fils Ltee. (1) Lac Frontiere, Que. — 14,000,000
353. Marys River Lumber Co. Inc. (1) Corvallis, Ore. — 13,950,000
354. Vitale Lumber Co. Inc. (1) Hancock, N.Y. — 13,882,442
355. Spruce Products Ltd. (2) Winnipeg, Man. — 13,800,000
356. William Milne & Sons Ltd. (1) Temagami, Ont. — 13,749,000
357. Herbert Lumber Co. (1) Riddle, Ore. — 13,652,000
358. Johnson Bros. Lumber (1) Silverton, Ore. — 13,646,019
359. Fiest Hardwoods (1) Newton Falls, Ohio — 13,583,150
360. Hamel Forest Products (1) Vesper, Wis. — 13,500,000
361. McRae Lumber Co.Ltd. (1) Whitney, Ont. — 13,360,000
362. Moose River Lumber Co. Inc. (1) Jackman, Maine — 13,348,681
363. Sam Mabry Lumber Co. Inc. (1) Liberty, Miss. — 13,348,023
364. Sundance Lumber Co. Inc. (1) Springfield, Ore. — 13,319,075
365. Sagebrush Sales Co. (2) Montrose, Colo. — 13,241,441
366. Salmon River Lumber Co. (1) Riggins, Idaho — 13,131,614
367. Cuddeback Lumber Co. (1) Eugene, Ore. — 13,000,000
368. Augusta Lumber & Supply Co. (3) Staunton, Va. — 13,000,000
369. Flippo Lumber Corp. (1) Doswell, Va. — 12,860,699
370. Cascade Locks Lumber Co. (1) Cascade Locks, Ore. — 12,870,000
371. Corley & Sons Sawmill Inc. (1) Lexington, S.C. — 12,832,000
372. Trammell Lumber Co. (1) La Grange, Ga. — 12,807,203
373. Bear Paw Timber Corp. (4) Fryeburg, Maine — 12,760,000
374. Indiana Wood Products Inc. (2) Middlebury, Ind. — 12,584,761
375. Sonoma Pacific Co. (1) Oakland, Calif. — 12,429,000
376. Fleming Lumber Co. (1) Crestview, Fla. — 12,400,000
377. Great Western Lumber Co. (1) Everson, Wash. — 12,350,000
378. Coos Head Timber (2) Coos Bay, Ore. — 12,332,622
379. Phillips Bros. Lumber (2) Brookhaven, Miss. — 12,330,000
380. Clermond Hamel Ltd. (1) Beauce, Que. — 12,222,000
381. Almond Bros. Lumber Co. (1) Coushatta, La. — 12,200,000
382. Pitt Timber Ltd. (1) Port Coquitlam, B.C. — 12,200,000
383. Chesterfield Lumber Co. Inc. (1) Darlington, S.C. — 12,095,487
384. Seaman Timber Co. Inc. (2) Montevallo, Ala. — 12,000,000
385. Big Creek Lumber Co. (1) Davenport, Calif. — 12,000,000
386. E. Sondheimer Co. (1) Sondheimer, La. — 12,000,000
387. Fred Netterville Lumber Co. (1) Woodville, Miss. — 12,000,000
388. Alan McIlvain Co. (1) Philadelphia, Pa. — 12,000,000
389. Newman Lumber Co. Inc (1) Woodsville, N.H. — 12,000,000
390. Bellerive Ka'N'Enda Forest Products (1) Mont-Laurier, Que. — 12,000,000
391. Spatsum Lumber Ltd. (1) Lytton, B.C. — 12,000,000
392. Precision Pine Co. (1) Lakeview, Ore. — 11,832,000
393. Wiergate Lumber Co. Inc. (1) Wiergate, Texas — 11,800,000
394. Sooke Forest Products Ltd. (1) New Westminster, B.C. — 11,800,000
395. Swift Lumber Co. (1) Atmore, Ala. — 11,706,000
396. East Perry Lumber Co. (1) Frohna, Mo. — 11,600,000
397. Metcalf Lumber Co. (1) Thomasville, Ga. — 11,500,000
398. Aiken Lumber Co. (1) Aiken, S.C. — 11,500,000
399. Jackson Sawmill Co. (1) Jackson, Ala. — 11,400,000
400. Cecil Hodges Lumber (1) Sandersville, Ga. — 11,346,392

EVERY EFFORT has been made to make the data presented in this edition of the Annual Lumber Review as accurate as possible. However, because of erratic production periods, shutdowns and other factors in 1981, some information may not be complete. We welcome any corrections or changes. Please notify us at: FOREST INDUSTRIES, 500 Howard St., San Francisco, Calif., 94105. Telephone (415) 397-1881. —Ed.